

A Classroom Guide
to the EPCOT Center Experience

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FUTURE WORLD.
SPACESHIP
EARTH. 10/85
DISNEY COLLECTION
DOES NOT CIRCULATE

SPACESHIP EARTH





EPCOT Center: A Definition

Welcome to EPCOT Center, the Experimental Prototype Community of Tomorrow. Walt Disney chose this name to describe what has become the realization of his greatest dream. He visualized EPCOT Center as a project that "will never be completed but will always be introducing, testing, and demonstrating new materials and new systems . . . a showcase to the world for the ingenuity and imagination of American free enterprise." But unlike most Utopian visions, EPCOT Center is real: here the future is something to see, hear, smell, touch and taste and wonder about.

There are two parts to EPCOT Center: Future World and World Showcase. In the Disney tradition of master storytelling, Future World demonstrates the dazzling technology of the years to come. World Showcase highlights the present and its most vital resource: people. The World Showcase illustrates life around the world with such realism that visitors may well feel transported to the countries represented. Both parts of EPCOT Center work together to create a "permanent (showcase) of imagination and discovery, education and exploration . . ."

A Commitment to Education

EPCOT Center combines the Disney expertise in entertainment and communication with a compendium of information from the academic



An aerial view of EPCOT Center.

world, industry, and government. The primary goal of this combination is to provide visitors with an exceptional educational experience that *inspires them to actively participate in the shaping of the future*. In classrooms each day teachers try to achieve this same goal. For this reason, teachers, our most important guides to the future, are considered very special guests at EPCOT Center.

A Field Trip with a Long Memory

Teachers often enrich the curriculum by bringing to it the immediacy of their own experiences. Sharing snapshots and souvenirs is one way of transferring the excitement of travel to a classroom. But EPCOT Center is much more than a sightseeing destination. The discerning educator can stretch an EPCOT Center visit into a functional and lasting part of a curriculum. This Teacher's Guide is designed to help educators tap the vast informational resources of EPCOT Center and put them into a meaningful academic context. Filled with practical, easy-to-use materials and ideas for immediate classroom use, this guide serves as a "take-home" field trip to EPCOT Center!

How to Use this Guide

To assist teachers in a variety of learning situations, the materials in this guide have been divided into three instructional levels. For convenience these levels are highlighted with different colors. The levels and color codes are as follows:

Level A (Grades 3-6)	Pages 3-5 RED
Level B (Grades 7-9)	Pages 6-9 BLUE
Level C (Grades 10-12)	Pages 10-13 GOLD

Almost everything needed for a complete lesson is included. Each level is composed of three parts:

1) Instant Lesson Plan

It is "instant" because very little prior preparation is necessary. Each lesson plan provides specific learning objectives, brief teacher directions, and answers to the corresponding reproducible worksheets. Suggested follow-up activities are also included. These ideas will help teachers who choose to cover these educational ideas in greater detail. Designed to be flexible, these suggestions can be applied to math, language arts, computer literacy, or other subject areas.

2) Reading Experience

This is a reproducible sheet that gives students a brief summary of the educational content of Spaceship Earth. The vocabulary and concepts are appropriate to each instructional level.

3) Follow-Up Worksheet

This reproducible page features questions and activities that review the reading material and provide practice in basic reading comprehension skills, such as recalling facts, sequencing, inference, and prediction.

BEFORE YOU START . . .

Before the lesson begins, you may want to describe your own experience at EPCOT Center. This not only personalizes Spaceship Earth; it also gives you a chance to share photos and souvenirs! The subject area specialists and classroom teachers who have contributed to this and other EPCOT Center educational materials hope that this Teacher's Guide will be among the most useful of your mementoes of EPCOT Center.

OBJECTIVES

To define communication
To introduce basic facts about the history of communication
To provide practice in reading comprehension skills

PROCEDURE

1) Write the word *communication* on the board. Help students to understand it and ask them to tell what they think it means.

2) Explain to students that they will be reading some interesting things about communication and that when they are finished, they should have a good idea of what *communication* means. Students can also be expected to remember at least two facts about the ways people communicated in the past. Inform students that they will be responsible for writing answers to a follow-up sheet. Teachers may wish to review directions on this activity sheet. Distribute reading materials.

EVALUATION

Review answers to activity sheet:

1-a, 2-c, 3-c, 4-b, 5-b, 6: a-2, b-1, c-3



Visitors to Spaceship Earth experience new technologies first hand.

SUGGESTIONS FOR FOLLOW-UP ACTIVITIES

- 1) Develop a list of communication devices students use daily (television, radio, home computer, magazines, books, telephone, newspaper, video recorder, stereo, movies). Have students graph and/or record the amount of time they use each in one week. Collect the data and create a cumulative bar graph for the class.
- 2) Divide the class into groups to research the communications advances made by the following groups and individuals: Egyptians, Phoenicians, Greeks, Muslims, Medieval monks, Gutenberg, Marconi, Bell. Assign other groups to find out about the inventions of the telegraph,

motion pictures, television, and the computer. Organize a communications "history parade" or a "living time line" in which students create costumes and props to demonstrate the significance of the group, person, or invention they have researched.

3) For a specific amount of time eliminate an important form of communication, such as talking or reading, from the classroom. Plan this time in advance with your students and have them discuss what they think could happen as a result. Later have students write about their actual experiences and compare it to their expectations.

4) Interview a friend using only written communication.

5) Tell about something you did using only pictures you've drawn.

6) Tell about something you did using only body language.

The Story of Communication

Communication is the way in which people share information between one and another. There are many different ways to communicate. Speaking face to face is the simplest way of sharing an experience. The story of communication is the story of how people invented faster and better ways to share information with each other.

Long ago people communicated in very simple ways. At first they used sounds and gestures. But they had no way of recording their ideas. The first form of written communication was when people painted on cave walls. These pictures were about things that were important in their life, like the animals they hunted.

Thousands of years later, Egyptians wrote on the walls of their temples. They used hundreds of pictures for certain ideas or objects.

In other parts of the world people began writing on clay tablets. This made writing easier and now it could be moved. The Egyptians, however, discovered how to use papyrus plants to make a kind of paper. Papyrus scrolls could be easily carried from place to place. This was very important because it meant that ideas and learning were also carried to many more people.

The Phoenicians developed a simpler way of writing using only twenty-two symbols. This was the first real alphabet, and it is something like the one we use today.

Although communication was improving, everything still had to be copied by hand. This method was very slow. Then something great happened: a man named Johan Gutenberg invented the printing press with movable type.

A page could be copied many times at once and put into books. These printed books brought new ideas to many more people than ever before.

As time went by, people developed more machines to help them communicate. They invented things like the telegraph, telephone, radio, motion picture, and television. Today, new communication tools, such as computers and satellites, can send information around the world in less than a second.

This is not the end of the story of communication. In the future people will keep finding better and faster ways to send and receive information. As long as there are people and ideas, the story of communication will go on and on.



Name _____

Date _____

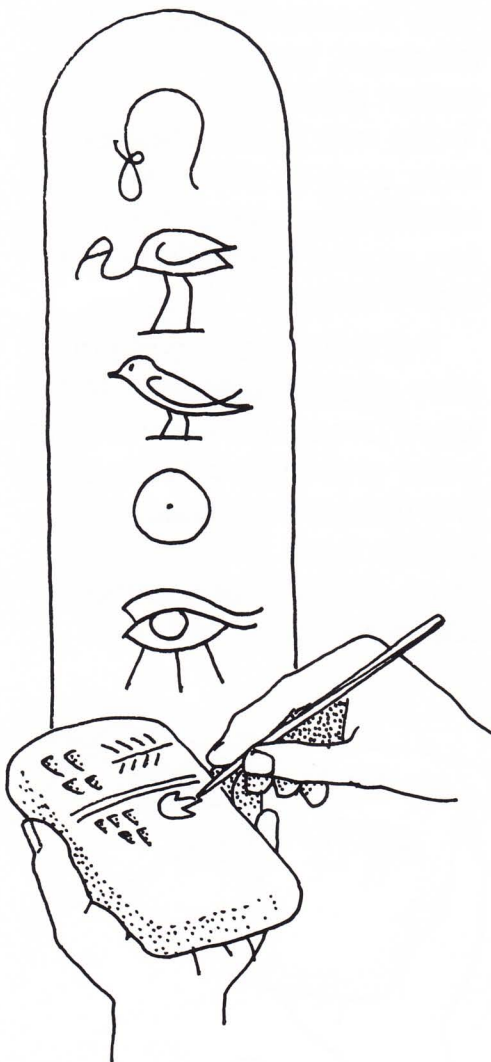
Underline the right answer.

- 1) The alphabet we use today is like the one developed by
 - a) the Phoenicians
 - b) the Egyptians
 - c) Johan Gutenberg
- 2) The use of papyrus scrolls was important because
 - a) it didn't cost much to make
 - b) people were running out of wall space
 - c) ideas could now be carried to new places
- 3) Written communication is one way that people
 - a) read books
 - b) send mail
 - c) save what they say
 - d) all of the above
- 4) When someone makes a gesture, they
 - a) make smoke signals
 - b) move a part of their body
 - c) paint a picture

- 5) Communication is the way people give _____ to each other.
 - a) food
 - b) information
 - c) clothing
- 6) Number these sentences in the order in which they occurred.
 - a) ____ The printing press made copies of books.
 - b) ____ People painted pictures on cave walls.
 - c) ____ The telephone was invented.

On the back of this paper, answer questions 7-10.

- 7) Draw a picture of all the things you use to help you communicate. Label each picture.
- 8) Pretend that it is one hundred years from now. There are many new ways to communicate. On a separate sheet of paper describe three different ways of communicating.
- 9) Aliens have just landed on earth. How will you communicate with them?
- 10) How has Gutenberg's invention affected you and your family?



Instant Lesson Plan: Level B (Grades 7-9)

OBJECTIVES

To introduce an outline of the history of human communication. To provide practice in reading comprehension skills.

PROCEDURE

- 1) Teachers may want to review the following vocabulary words: communication, primitive, hieroglyphics, Egyptians, Phoenicians, papyrus, ancient, technology, manuscript.
- 2) Write the word communication on the board. Tell students that they will be reading about communication and that when they are through they should know at least three important facts about the history of communication. Inform the class that a written follow-up sheet will be distributed. (Teachers may want to review the directions before handing out the worksheets.)
- 3) Distribute reading materials.

EVALUATION

Review answers to the worksheet: (a-3, b-2, c-4, d-1); 1-c; 2-a; 3-b; 4-a; 5-c; 6-d; 7-d; 8-a; 9-c; 10-b; 11-b; 12-Discuss (may be used as extra credit)



Prototype communications technologies on display at EPCOT Center.

SUGGESTIONS FOR FOLLOW-UP ACTIVITIES

- 1) Divide students into small groups. Have each group choose a feeling, theme, or idea (i.e. joy, fear, childhood, old age). Each person in the group will use a different form of communication to express that theme. For example, one student may write a poem, another may sing a song, one may develop a computer game, or another could produce a script for a short film, video tape, or slide presentation.

2) Students can choose a variety of ways to dramatize important events in the history of communication. Possible formats include a television interview with an important figure, an "eyewitness" news report, a radio bulletin followed by "man on the street" interviews, or a quiz show.

3) Discuss ways in which current communications technology (video recorders, home computers, television, radio, magazines, books, telephone, newspaper, stereo, movies) is changing our lives. Then have students imagine that it is the year 2100: There have been several major advances in communications technology that have drastically changed the lifestyles, work and study of the typical American family. Have students speculate on what such advances could be. Be ready to give them a few hints (optics, lasers, etc.). Divide students into small groups to write and perform skits that demonstrate some of these changes.

The Story of Human Communication

This is an age of advanced communications technology. Satellites bounce signals through space to bring events from the other side of the world into our homes. Computers speed information of all kinds, from police bulletins to airline reservations, from place to place. But people have not always had this wonderful machinery to help them exchange information. The story of human communication is a long one.

At first communication was very simple. We believe that early humans used sounds and gestures. They probably made loud noises and waved their arms to warn of danger, such as an approaching wild animal. This kind of oral communication was the first and most basic way of giving information.

But as human life became

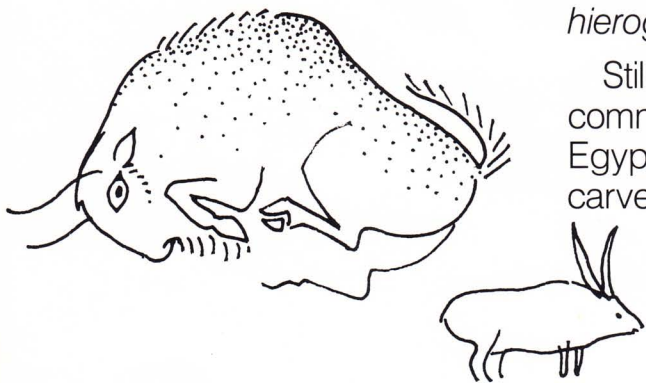
more complex, we think oral communication developed and became more complex, too, with different languages and more specialized ways of getting information around. As primitive noises became a spoken language communication greatly improved. Still, sounds always disappeared as soon as they were made. People needed a way to *preserve* their ideas and to share their experiences. And to find a way to talk to a larger or more distant audience. To do this people began to paint pictures on the walls of their caves. These cave drawings were the first kind of written communication.

The next improvement in writing was the use of symbols to stand for certain objects and ideas. The ancient Egyptians developed a complex system of picture-writing, with pictures and symbols to represent words and ideas. This writing was known as *hieroglyphics*.

Still another contribution to communication came from Egypt. At first the Egyptians carved their hieroglyphics into

stone. Then they discovered that papyrus plants, which grew plentifully in Egypt, could be soaked, pressed, and dried to make a material like paper. This was an important discovery because papyrus scrolls could be easily transported, while stones could not! As the scrolls travelled from place to place, so did new ideas and learning. The scrolls could be used to record history.

Written language continued to develop. The seafaring Phoenicians developed a simple alphabet of twenty-two symbols. It became the basis of the alphabet we use today. The Greeks added vowels to this alphabet. Without vowels people could not always pronounce the words they had written. Now that they could say exactly what they wrote, the Greeks could preserve an important form of communication: drama. Some ancient Greek plays are still performed to this day.



Other groups added to the growth of communication. Romans built a great network of roads with Rome at the center. This helped to spread information throughout the large Roman Empire. The Muslims translated information from all over the world into their language, providing a rich storehouse of knowledge.

Writing was still a very slow task. In Medieval Europe monks spent long hours copying words onto parchment scrolls. Only a small amount of things could be copied this way.

The invention of the printing press was a momentous event. A page could be printed many times and assembled into books. Years later the steam printing press brought people daily newspapers. Never before had so many people received so

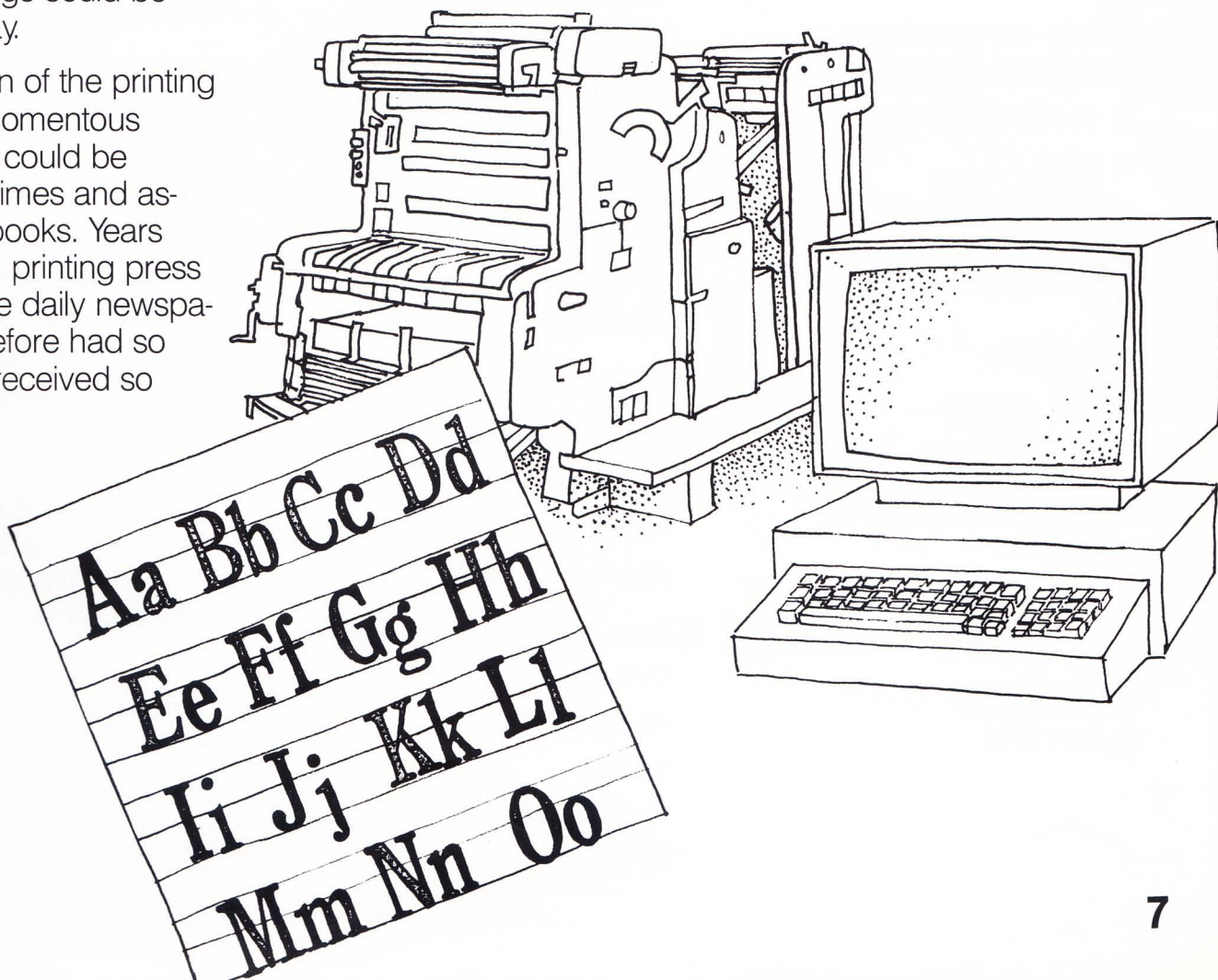
much information so fast!

Now that machines were part of the story, communication began to improve swiftly. Soon the telegraph arrived, then the telephone was invented and people could speak directly to someone far away!

New inventions helped people have fun as well as information. The wireless radio entertained thousands of families and also brought the news into their living rooms. In

time, pictures combined with sound. Movies and television brought comedy, drama, news, weather, sports, education, and commercials to millions of people.

Today computers speed information around the globe in seconds or less. They also entertain and educate people. But the story of communication does not end here. As long as people have ideas and the desire to share them, the communications story will continue.



Name _____

Date _____

Number these sentences in the correct order.

- a) _____ Romans built a large network of roads.
- b) _____ Phoenicians developed a simplified alphabet.
- c) _____ The printing press was invented.
- d) _____ People learned to make papyrus.

Underline the correct answer.

- 1) Written communication could best be described as
 - a) pencil markings
 - b) type
 - c) preserved speech
- 2) Hieroglyphics is made up of
 - a) symbols
 - b) quill pens
 - c) the Pharoahs
- 3) Who wrote on papyrus scrolls?
 - a) Phoenicians
 - b) Egyptians
 - c) Greeks
 - d) Romans

- 4) Why was writing on papyrus an important development?
 - a) Information written on walls could not be transported.
 - b) Papyrus was plentiful.
 - c) Laws were written on papyrus.

- 5) What made mass production of books possible?
 - a) the addition of vowels to the alphabet
 - b) papyrus scrolls
 - c) the printing press
 - d) the telegraph

- 6) Which word is most like primitive?
 - a) private
 - b) secretive
 - c) difficult
 - d) simple

- 7) A scroll is a
 - a) kind of doughnut
 - b) scarf
 - c) plant
 - d) roll for writing

- 8) Something that is momentous is
 - a) important
 - b) fast
 - c) big
 - d) old

- 9) Adding vowels to the alphabet helped people to
 - a) write much faster
 - b) invent the printing press
 - c) pronounce the written words
 - d) speak different languages

- 10) The new form of expression invented by the Greeks was
 - a) music
 - b) drama
 - c) writing
 - d) literature

- 11) In Medieval times communication was slow because
 - a) people were not interested in learning
 - b) everything had to be copied by hand
 - c) the peasants had no time to read
 - d) there were many wars

- 12) On the back of this paper draw a time line to illustrate the history of communication.

Instant Lesson Plan: Level C (Grades 10-12)



Time-travel to an ancient Greek theater in Spaceship Earth.

OBJECTIVES

To present a summary of the important events in the history of communication. To provide practice in basic reading skills.

PROCEDURE

- 1) Teachers may want to review these vocabulary words. Cro-Magnon, Egyptian, Phoenician, Medieval, Renaissance, innovation, network, manuscript.
- 2) Explain that students will be reading about the history of human communication. Students should be able to recall at least four chronological events in this history. Also inform students that they will be completing a written worksheet to check their reading.
- 3) Distribute materials.

EVALUATION

Review the answers to the worksheet: (a-3, b-1, c-2,); 1-d; 2-d; 3-e; 4-c; 5-a; 6-c; 7-d; 8-Discuss (may be used for extra credit)

SUGGESTIONS FOR FOLLOW-UP ACTIVITIES

1) Assign students to work in small groups to develop "History of Communications" board games. A game could be an episodic maze in which a figure overcomes obstacles on the way to exchange a secret message. As the game progresses, varying obstacles, messages, and figures could represent the chronology of the history of communication. (i.e. An Egyptian may escape snakes in his search for a papyrus scroll; Phoenicians keep their ships afloat; etc.) Students will have many more ideas! This concept can also be developed into a computer game.

2) Make a list of the communication aids that students use: television, stereo, video recorder, newspaper, magazine, post office, home computer, telephone, radio, books, movies. Divide the class into groups, and assign one device to each. Have each group survey students, stores, periodicals, and other sources in order to create a "consumer's guide," describing the best and worst features of each communication device. Work with students to develop guidelines, such as the minimum number of people to be polled,

appropriate questions, and ways to determine credibility of sources. Results can be tabulated and displayed in various ways: as a book, on a chart, graph, or computer file.

3) Advanced communications technology is solving the problem of handling immense amounts of information. But the computer revolution is also creating new problems: delays caused by machine breakdown, unemployment, and computer "illiteracy" are examples. Through a discussion have students identify these problems, predict others, and suggest solutions.

4) To reinforce the difficulty in non-verbal communication, a game of charades or pantomime might help.

From Caveman to Computers: The History of Communication

Is communication an art? The great communicative power of artistic forms such as film, literature, television, theatre, painting, and more suggests this is true. Or is it a science? The recent upsurge in advanced technology such as communications satellites, video equipment, and computer communications networks seems to point to scientists as the master communicators. Today the way we exchange information is often a complex blend of science and art. This has not always been so. The methods of communicating have grown from prehistoric human shouts to futuristic computer "blips." The development of human communication is a compelling story as long as the history of mankind.

Primitive noises marked the beginning of the story. Scientists have theorized that upon noticing a wild animal approaching, an early primitive dweller might have grunted and waved furiously to warn others of the danger. Such basic oral communication may have eventually developed into more organized patterns and become recognizable as speech.

But this first oral form of communication was not enough. Sounds disappeared as soon as they were uttered. People yearned for a way of preserving speech, for some kind of *written communication*. Anthropologists suggest this may be one reason Cro-Magnon people painted pictures of their exploits on the walls of their cave dwellings. These cave drawings were the first form of writing.

The Egyptians expanded on the idea of painting pictures on cave walls. They developed a more sophisticated system of picture-writing: hieroglyphics, which utilized symbols as well as pictures.

The root of another communications advance was found in ancient Egypt. By soaking, pressing, and drying papyrus plants, the Egyptians created a paper-like material which they formed into scrolls. The use of papyrus scrolls was a significant step forward because it meant that written communication was portable (for the first time.)

Seafaring Phoenician traders brought the next improvement in communications. They simplified written symbols into an alphabet of only twenty-two characters. Because they traded scrolls as well as goods, the Phoenicians encouraged widespread use of their alphabet. It became the basis of the alphabet we use today.

The ancient Greeks also added to the legacy of human communication. By adding vowels to the Phoenician



alphabet, the Greeks developed a written language to express ideas of philosophy, drama, and science. This innovation inspired the preservation of important ideas expressed in the theatre.

Although primarily interested in law enforcement and strengthening of their empire, the Romans were responsible for a communications milestone. Their elaborate system of roads with Rome at the hub was the first communication network!

The Eastern World also made a major contribution to the advancement of communications. Muslims translated scientific knowledge from around the world into the

Arabic language and, most importantly, stored that knowledge in libraries.

In Medieval Europe, monks continued the laborious tasks of hand-copying manuscripts. This slow procedure limited reading materials to only a privileged few.

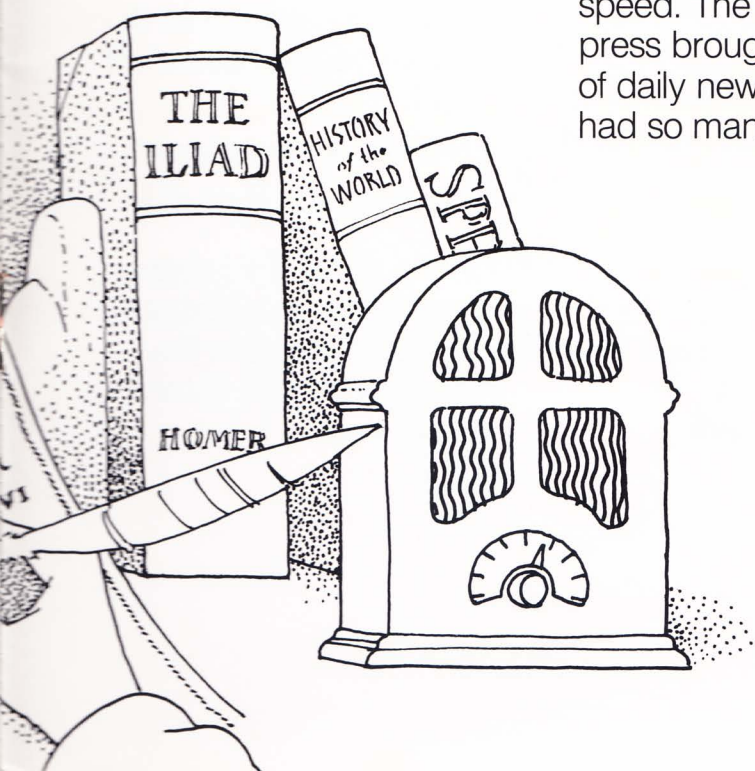
The momentous invention of the printing press with movable type finally spread information to the masses. The increased availability of printed books sparked the Renaissance and encouraged an interest in discovery and expression, particularly in painting and sculpture.

Once technology entered the picture, the progress of communications began to move forward with more speed. The steam printing press brought wide circulation of daily newspapers. Never had so many people received

so much information so fast. The telegraph marked the advent of instantaneous communication. Later, eliminating the need for dots and dashes, Alexander Graham Bell introduced his telephone — the first direct, long distance, verbal person-to-person communications device.

Having mastered the basics of information transfer, people found ways to use communications technology for entertainment as well. Wireless radio transmitted a combination of fun and news to a vast listening population. Motion pictures combined audio and visual capabilities in a new dramatic form. Soon television, eventually by satellites, brought the events of the world into individual living rooms.

Now complex computers speed information and entertainment around the world and beyond. But the story of communication is far from over. As long as there are people with ideas to share, the story will continue.

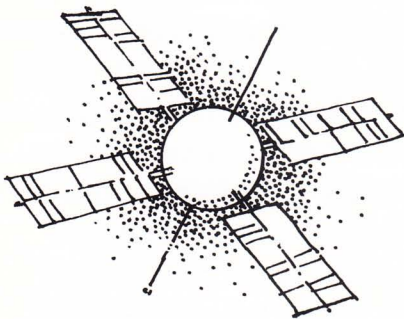


Name _____

Date _____

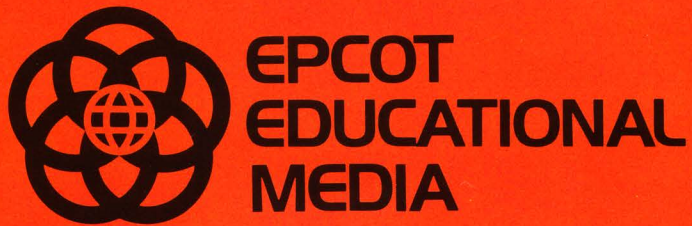
Number these sentences in the correct order.

- a) _____ Daily newspapers are published.
- b) _____ Greeks record drama.
- c) _____ Romans build a great network of highways.



Underline the correct answer.

- 1) What is the most primitive form of communication mentioned in the story?
 - a) Egyptian hieroglyphics
 - b) The Phoenician alphabet
 - c) Medieval manuscripts
 - d) None of the above
- 2) What was the first communications network?
 - a) caves
 - b) two monasteries in Britain
 - c) a group of Greek playwrights
 - d) the Roman highway system
- 3) The purpose of written communication is to
 - a) allow people to read good literature
 - b) preserve spoken language
 - c) record history
 - d) none of the above
 - e) all of the above
- 4) Which occupation contributed most to the spread of the Phoenician alphabet?
 - a) silversmith
 - b) soldier
 - c) trader
 - d) physician
- 5) Why didn't the Egyptians write plays?
 - a) Hieroglyphics could not be pronounced.
 - b) They thought the theatre was frivolous.
 - c) The Pharaohs would not permit it.
 - d) None of the above.
- 6) The Renaissance was
 - a) the title of the first book printed
 - b) the first world's fair
 - c) a revival of art and learning in Europe
 - d) none of the above
- 7) The basic purpose of communicating is to
 - a) encourage people to read
 - b) influence people to do what you want them to do
 - c) distribute newspapers
 - d) exchange information
- 8) On the back of this paper draw a time line illustrating the major events in the history of human communication.



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